

## BOOK REVIEW

### Flora of Southeastern Washington

Some eight years have passed since Dr. St. John left the State College of Washington, but a series of publications on the Pacific Northwest still gives evidence, not only of his continued interest in that region, but of the amount of data he must have accumulated during his nine years at Pullman. His most recent work<sup>1</sup> supplies us with not only a local manual and valuable notes on the plants of that area, but a careful study of the identity of these plants in relation to the rest of the flora of North America. He does not give the impression of thinking that he is saying the last word, even for the present, on the flora of the region; in many genera he describes, so far as they are known, but does not name, entities in groups needing further study. By so doing he will enable future students to pick up the thread where he has dropped it. In many cases, in addition to a simple citation of synonyms, he discusses the opinions of those with whom he may differ, and tells just how he has reached his conclusions. Again he will be thanked by those who wish not only to name an occasional specimen, but to study the relationships of the plants.

A frontispiece presents a map of the area, with life zones clearly shown in color. He steers a middle course between those who make a fetish of such life zones and those who consider them of little significance.

"Detailed studies have shown that few, even of the indicator, plants are absolutely constant to one life zone. If their entire geographic range is considered it is often found that they occur in two or more life zones. Also if a number of indicator species of one zone are studied and their ranges mapped in detail, it will be seen that their ranges do not exactly coincide. Hence, the life zones do not seem to be scientific concepts capable of precise definition. On the other hand they are generalizations of the mass association of plants characteristic of the great physiographic and climatic areas. They have a meaning and a

<sup>1</sup> Flora of southeastern Washington and adjacent Idaho. Harold St. John. Pp. i-xxv+1-531, map, figs. 1-11, 1937. Students Book Corporation, Pullman, Washington. Paper bound \$3.20; cloth bound \$3.70.

use. To the naturalist, the name Upper Sonoran brings an indelible picture of hot, arid plains or canyons with sagebrush, cactus, jack-rabbits, and horned toads. The name Canadian brings an image of deep, moist woods in the mountains, with the shade and fragrance of spruce, fir, and cedar. It is because of this value as a generalization that the life zone concept is used in this book. Whenever known the life zone is stated for each species. It is based on its occurrence within this area, and disregards its zonal occurrence elsewhere, which may or may not be identical" (pp. ix and x).

Genera and species are treated conservatively, but by no means "lumped." Seventy-five new names make their debut in this book, but we are given the impression that they are based on real study, not nomenclatorial juggling. The order of families follows Engler and Prantl because that system "seems the best"—whether best from the standpoint of representation of evolutionary lines, or from that of convenience and familiarity, is not stated.

The range within the area of each species is expressed in general terms for the commoner plants, and more exact locations and collectors of the localized forms are stated. The general ranges outside of southeastern Washington and adjacent Idaho are, unfortunately, omitted.

The keys are expressed in simple terms and appear workable. The key to families, always difficult to make and usually difficult to use, seems to be simplified as much as possible, and is partially illustrated by eleven text figures. These seem, for the most part, not very well chosen. It is doubtful if the beginner, unfamiliar with the distinctions between the Pteridophytes and the Spermatophytes, will derive much understanding from the drawings of spores (fig. 1). Again, the significance of fig. 3, showing "naked seeds," and fig. 4, showing "ovary and ovule," will scarcely be understandable except to one who already knows the difference between Gymnosperms and Angiosperms, and he will not need them. "Stamens opposite the petals" (fig. 7), and "stamens not opposite petals" (fig. 8) seem to call less for clarification by illustration than such characters as "ovary 1-celled with a central placenta," "placenta parietal," and "stamens hypogynous," with which we can all remember struggling.

In some groups classified mainly on fruit characters, notably

the Umbelliferae, keys to flowering, as well as fruiting, plants are supplied, thus removing one source of discouragement to many of those whose interest in botany revives with the spring. In *Antennaria* and *Salix* there are separate keys for staminate and pistillate plants.

Within each family the genera are arranged alphabetically, as are the species within each genus. While such procedure would be inexcusable in a taxonomic monograph, it may have its advantages in a manual, although the present writer, having worked in herbaria where species are arranged in alphabetic sequence, and in those where an attempt at natural order is made, must confess that he much prefers the latter.

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